

REPORT DOCUMENTATION PAGE
*Form Approved
OMB No. 0704-0188*

The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Service Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.

1. REPORT DATE (DD-MM-YYYY) 04/03/2018	2. REPORT TYPE Poster	3. DATES COVERED (From - To) 03/04/2018		
4. TITLE AND SUBTITLE Aromatherapy versus Oral Ondansetron for Antiemetic Therapy Among Adult Emergency Department Patients: A Randomized Controlled Trial.		5a. CONTRACT NUMBER		
		5b. GRANT NUMBER		
		5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) Davis, William T, Capt		5d. PROJECT NUMBER		
		5e. TASK NUMBER		
		5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) 59th Clinical Research Division 1100 Willford Hall Loop, Bldg 4430 JBSA-Lackland, TX 78236-9908 210-292-7141		8. PERFORMING ORGANIZATION REPORT NUMBER 17625		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) 59th Clinical Research Division 1100 Willford Hall Loop, Bldg 4430 JBSA-Lackland, TX 78236-9908 210-292-7141		10. SPONSOR/MONITOR'S ACRONYM(S)		
		11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.				
13. SUPPLEMENTARY NOTES Government Services Symposium, CA, 4 Mar 18				
14. ABSTRACT				
15. SUBJECT TERMS				
16. SECURITY CLASSIFICATION OF: a. REPORT		17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON Clarice Longoria
b. ABSTRACT				19b. TELEPHONE NUMBER (Include area code) 210-292-7141
c. THIS PAGE				



Aromatherapy versus Oral Ondansetron for Antiemetic Therapy Among Adult Emergency Department Patients: A Randomized Controlled Trial.

Michael D. April, MD, DPhil, MSc; William T. Davis, MD; Curtis J. Hunter, MD, FACEP; Patrick C. Ng, MD; Joshua J. Oliver, MD; David Ong, MD; Erica M. Simon, MD
Department of Emergency Medicine, San Antonio Uniformed Services Health Education Consortium

Introduction

- Isopropyl alcohol is inexpensive and reported by multiple trials to have efficacy in treating post-operative nausea and vomiting.
- A single ED randomized controlled trial demonstrated superior treatment of nausea with inhaled isopropyl alcohol compared to inhaled saline placebo.
- Chief complaints related to nausea or vomiting account for approximately 4.8 million ED each year in the United States
- The goal of this study is to compare nasally inhaled isopropyl alcohol versus oral ondansetron in treating nausea among ED patients

Results

Figure 1. Subject Enrollment

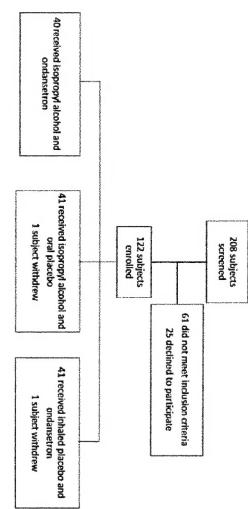
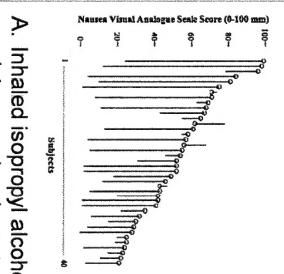


Table. Baseline characteristics and outcomes

	Inhaled Isopropyl Alcohol + Oral Ondansetron (n=40)	Inhaled Isopropyl Alcohol + Oral Placebo (n=40)	Inhaled Alcohol + Oral Ondansetron (n=40)
Baseline Characteristics			
Age, mean (SD), y	30.5 (10.9)	34.2 (15.5)	29.25 (10.6)
Female sex (95% CI), %	50 (33.8-66.2)	35.0 (20.6-51.7)	68.5
Weight, kg	77.5 (16.9)	78.1 (19.4)	83.7 (18.8)
Symptom duration, hr	13.5 (6.48)	24 (6.72)	19 (10.48)
Vomited since symptom onset, %	82.5 (67.2-92.7)	73.2 (57.9-84.4)	75.6 (59.7-87.6)
Initial nausea score, VAS	52.6 (21.7)	50.8 (20.7)	51.2 (19.7)
Initial pain score, VAS	37.3 (31.3)	39.4 (27.9)	43.5 (29.1)
Outcomes			
VAS nausea score reduction at 30 min	29.6 (26.5)	31.9 (23.0)	9.4 (16.0)
VAS pain score reduction at 30 min	9.8 (20.9)	11.1 (15.9)	2.9 (14.0)
Final nausea VAS score	15.8 (19.4)	16.3 (18.3)	29.3 (24.8)
Final pain VAS score	17.8 (20.8)	21.9 (21.1)	29.9 (26.9)
Nausea therapy satisfaction VAS	80.9 (28.5)	77.9 (26.8)	55.9 (35.5)
Vomited in ED, %	7.5 (16.2-20.4)	0.0 (0-10.4)	7.5 (16.2-20.4)
Receipt of rescue anti-emetics, %	27.5 (14.6-43.9)	25.0 (12.7-41.2)	61.5
ED length of stay, min	217 (140)	224 (136)	210 (112)
Admitted (95% CI), %	12.5 (4.2-26.8)	0.03 (0.0-13.2)	0.00 (0-10.4)

Figure 2. Nausea Visual Analogue Scores



A. Inhaled isopropyl alcohol and 4 mg oral ondansetron

B. Inhaled isopropyl alcohol and oral placebo

Table 3. Effect size differences compared with arm receiving inhaled placebo and oral ondansetron.

Variables, mean (95% CI)	Inhaled Isopropyl Alcohol + Oral Ondansetron (n=40)	Inhaled Isopropyl Alcohol + Oral Placebo (n=40)
VAS nausea score reduction at 30 min	20.2 (10.4 to 29.9)	22.5 (13.7 to 31.3)
VAS pain score reduction at 30 min	6.9 (-1.0 to 14.8)	8.2 (1.6 to 14.9)
Final nausea score, mean (95% CI), VAS*	-13.4 (-23.4 to -3.5)	-13.0 (-22.7 to -3.2)
Final pain score, mean (95% CI), VAS*	-12.1 (-22.7 to -1.4)	-8.0 (-18.7 to 2.7)
Nausea therapy satisfaction VAS	25.0 (39.4 to 10.5)	21.9 (36.1 to 7.8)
Vomited during ED stay (95% CI), %	0.0 (-11.9 to 11.9)	7.5 (-15.9 to 0.9)
Receipt of rescue anti-emetics (95% CI), %	-17.5 (-38.8 to 3.8)	-20.0 (-41.0 to 1.0)
ED length of stay, mean (95% CI), min	6.2 (-50.2 to 62.5)	13.6 (-41.8 to 68.9)
Admitted (95% CI), %	12.5 (2.0 to 23.0)	2.5 (-2.5 to 7.5)

Discussion

- Subjects receiving isopropyl alcohol had greater nausea relief than subjects receiving ondansetron
- The mechanism of action of isopropyl alcohol is unknown
- No adverse events were reported by study subjects
- Subjects were provided additional isopropyl alcohol or placebo pads on request to allow repeated dosing

Conclusions and Future Directions

- In this ED population of patients not requiring immediate IV access, isopropyl alcohol was superior to ondansetron in treating nausea
- Additional study is needed to compare aromatherapy to intravenous therapy
- Triage protocols enabling the administration of isopropyl alcohol to patients with nausea upon ED arrival is a practical application of these findings